Total No. of Questions—**8**] [Total No. of Printed Pages—**2**

Seat No.	

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S.E. (Computer) (I Sem.) EXAMINATION, 2018
OBJECT ORIENTED PROGRAMMING
(2015 PATTERN)

Time : Two Hours **Maximum Marks : 50**

N.B. :— (*i*) Answer Q. No. **1** *or* Q. No. **2**, Q. No. **3** *or* Q. No. **4**, Q. No. **5** *or* Q. No. **6**, Q. No. **7** *or* Q. No. **8**.

(*ii*) Neat diagrams must be drawn wherever necessary.

(*iii*) Figures to the right indicate full marks.

(*iv*) Assume suitable data, if necessary.

SECTION I

Q1) a) Define Constructor, Destructor. Write a program to explain use of new, delete, constructor and destructor. [6]

b) What is the difference between Inheritance and Containment? Write a program in C++ to defend your answer. [6]

OR

Q2) a) What is Operator overloading? Using friend function show how to overload increment (++) operator. Assume suitable class data members and member functions. [6]

b) List and explain various features of object oriented programming. [4]

c) Define class as ADT. [2]

Q3) a) How smart pointers avoids the problem of memory leak [4]

b) How function overloading and function templates are related to each other. State valid example to justify your answer. [4]

c) Create a user defined exception to check whether your employee exist in your data structure (use any data structure to store the employees) and throw exception if name is not in the employees list. Use the catch block to print an appropriate message on the screen [5]

OR

Q4) a) Explain pointer to a variable and pointer to a function. Use suitable example. [4]

b) What are friend functions and static functions? [6]

c) What is the need of Exception handling? [3]

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Q5) a) What is a Stream? Explain types of Streams available in C++. [6]

b) Write a program to create a file, read and write the record into it. [7]
Every record contains Employee Name, Id, and Salary. Store and retrieve at least 3 employee data.

OR

Q6) a) Explain following file handling functions [10]
I. open() II get() III. getline() IV. seekg() V. tellg()

b) What are cin and cout ? Explain iostream. [3]

Q7) a) What is the purpose of Iterator? Elaborate forward, bidirectional and random-access iterators with suitable examples [6]

b) What is a stack? How it is implemented using STL [6]

OR

Q8) a) Elaborate advantages and disadvantages of following Basic Sequence Containers [6]
a) Vector b) list

b) What is the STL? Why should a C++ programmer be interested in the STL? What is the design philosophy of the STL? What are the major components of the STL? [6]

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